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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Noriyoshi Munenaga

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EXAMINER

ETHERIDGE, EMPRESS A

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

09/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,583	Applicant(s) MUNENAGA ET AL.	
	Examiner Empress Etheridge	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 2,8,9,12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10 and 11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/19/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/19/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Claims 8, 9, 12, and 13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 23, 2009.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 5-7, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hagino et al. (JP Pub. No. 2002/170546) (“Hagino”).

Regarding claim 1, Hagino teaches a nonaqueous electrolyte secondary battery comprising: a rolled electrode body 4 (power generating element) having a positive electrode 41, a negative electrode 43, and a separator 42 (see paragraph [0014] and figure 7), a barrel 11 (battery case) for housing the rolled electrode body 4 (power generating element); a lid 12 (battery cover) for closing the cylindrical battery can 1 (battery case); a terminal 91 provided for the lid 12 (battery cover) (see paragraph [0021] and figure 4); a lead 7 for electrically connecting the terminal and the positive electrode or the negative electrode (see paragraph [0034] and figure 2); and a collecting

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terminal 5 (member), which is fit in the barrel 11 (battery case), and by which the lead 7 and the axis non-coating part 40, which is the exposed portion of the positive electrode or the negative electrode are electrically connected to each other is sandwiched (see paragraph [0014] and figure 3).

Regarding claim 3, Hagino teaches a non-axis coating part 40 that is the exposed portion of the positive electrode 41 or the negative electrode 43 (see paragraph [0014]). Hagino teaches a collecting terminal 5 (member) comprising a rivet member 54 and a washer member 53 on both sides of a non-coating axis part 40 (see paragraph [0026] and figures 1-2). Hagino also teaches the lead 7 and non-axis coating part 40 are compressed between a plate-like head 51 of rivet member 54 and a washer member 53 (see paragraph [0027]), which is the equivalent of applicants' member presses the part in which the lead and the positive electrode or the negative electrode are electrically connected to each other.

Regarding claim 5, Hagino teaches collecting terminal 5 (member) is indirectly adhered to the barrel 11 (battery case) via the electrode terminal mechanism 9 (see paragraph [0025] and figure 1).

Regarding claim 6, Hagino teaches the lead 7 and the axis non-coating part 40 are strongly compressed (electrically connected to each other) (see paragraph [0027]). Hagino teaches the lead 7 extends from each collecting terminal 5 (member) by the side of the positive electrode and negative electrode (see paragraph [0034]), which is the equivalent of applicants' a part in which the positive electrode and the lead are

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electrically connected to each other and a part in which the negative electrode and the lead are electrically connected to each other are sandwiched by the member.

Regarding claim 7, Hagino teaches each collecting terminal 5 (member) comprises a rivet member 54 and a washer member 53 (a plurality of members) (see paragraph [0014] and figure 3).

Regarding claim 10, Hagino teaches aluminum foil constitutes the positive electrode (see paragraph [0036]); copper foil constitutes the negative electrode (see paragraph [0036]); the positive electrode 41 and the negative electrode 43 both have an axis non coating part 40 (non coating portion) that is not covered with active material (see paragraph [0014] and figure 1); an inner surface of lower lid 12 (inner bottom face) provided for the barrel 11 (battery case) (see figure 4); a positive lead 7 as one of the lead, which connects the aluminum foil to the electrode terminal 91 (see paragraph [0014] and figure 1); and a negative lead 7 which connects the copper foil to the lower electrode terminal 91 which is a part of the lower lid 12 (inner bottom face), wherein the part is where the positive lead 7 and the aluminum foil are electrically connected to each other (see figure 1). Hagino also teaches the positive electrode 41 in an upper end of the rolled electrode body 4 (power generating element) and the negative electrode 43 in a lower end of rolled electrode body 4 (power generating element) (see figure 7).

Regarding claim 11, Hagino teaches aluminum foil constitutes the positive electrode (see paragraph [0036]); copper foil constitutes the negative electrode (see paragraph [0036]); the positive electrode 41 and the negative electrode 43 both have an axis non coating part 40 (non coating portion) that is not covered with active material

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(see paragraph [0014] and figure 1); an inner surface of lower lid 12 (inner bottom face) provided for the barrel 11 (battery case) (see figure 4); a positive lead 7 as one of the lead, which connects the aluminum foil to the lower electrode terminal 91 which is a part of the lower lid 12 (inner bottom face) (see paragraph [0014] and figure 1); and a negative lead 7 as one of the lead, which connects the copper foil to the electrode terminal 91, wherein the part is where the negative lead 7 and the copper foil are electrically connected to each other (see figure 1). Hagino indirectly teaches the positive electrode 41 in a lower end of the rolled electrode body 4 (power generating element) and the negative electrode 43 in an upper end of rolled electrode body 4 (power generating element) (see figure 4) because Hagino teaches a battery can 1 comprising an electrode terminal mechanism 9 attached to each lid 12 and that the lead 7 on the positive electrode side and negative electrode side is attached to the electrode terminal mechanism 9 (see figure 4). The determination of placement of the negative pole in an upper or lower end is relative and a person having ordinary skill in the art would be capable of positioning the poles in opposite directions to provide for a functional battery.

4. Claims 1, 3, 5-7, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Tasai et al. (WO Pub. No. 03100886), (see corresponding U.S. 2006/0051664 for translation "Tasai").

Regarding claim 1, Tasai teaches a battery comprising: a power generating element 1 having a positive electrode 1a, a negative electrode 1b, and a separator 1c (see paragraph [0003]); a battery case 8 for housing the power generating element (see

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paragraph [0043]); a cover plate 6 (battery cover) for closing the battery case (see paragraph [0043]); a terminal 3 provided for the cover plate 6 (battery cover) (see paragraph [0043]); a current collector connector 2 (lead) (see paragraph [0043] and figure 1); and a ridge section of pinching plate 4 (member) which is fit in the battery case 8 and by which a part in which the current collector connector 2 (lead) and positive electrode 1a or the negative electrode 1b are electrically connected to each other is sandwiched (see figure 1).

Regarding claim 3, Tasai teaches the ridged section of pinching plate 4 (member) firmly connects and fixes the connecting plate portion 2b of current collector connector 2 (lead) and the metal foil of the positive or negative electrode (see paragraph [0039]), which is the equivalent of applicants' presses the part in which the current collector connector 2 (lead) and the positive electrode 1a or the negative electrode 1b are electrically connected to each other.

Regarding claim 5, Tasai teaches the ridged section of the pinching plate 4 (member) is adhered to the battery case (see figure 4).

Regarding claim 6, Tasai teaches both of a part in which the positive electrode 1a and the current collector connector 2 (lead) are electrically connected to each other and a part in which the negative electrode 1b and the current collector connector 2 (lead) are electrically connected to each other are sandwiched by the ridged section of the pinching plate 4 (member) (see figures 1 and 7).

Regarding claim 7, Tasai teaches the pinching plate 4 (member) is constructed by a plurality of ridged sections 4 (plurality of members) (see figure 1).

Regarding claim 10, Tasai teaches an aluminum foil 1d which is a non-coating portion of the positive electrode and is projected in an side corresponding to the positive electrode 1a (upper end) of the power generating element; a copper foil 1e which is a non-coating portion of the negative electrode and is projected in a side corresponding to the negative electrode 1b (lower end) of the power generating element (see paragraph [0003] and figure 3) because “upper and lower” are relative terms; a side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) provided for the battery case 8 (see figure 4); a positive current collector connector 2 (lead) as one of the lead, which connects the aluminum foil 1d to the terminal 3 (see paragraph [0003] and figures 3-4); and a negative current collector connector 2 (lead) as one of the lead, which connects the copper foil 1e to the side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) via the pinching plate 4 (member), wherein the part is where the positive current collector connector 2 (lead) and the aluminum foil 1d are electrically connected to each other.

Regarding claim 11, Tasai teaches an aluminum foil 1d which is a non-coating portion of the positive electrode and is projected in a side corresponding to positive electrode 1a (lower end) of the power generating element; a copper foil 1e which is a non-coating portion of the negative electrode and is projected in a side corresponding to negative electrode 1b (upper end) of the power generating element (see paragraph [0003] and figure 4) because “upper and lower” are relative terms; a side of battery case

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8 parallel to pinching plate 4 (member) (inner bottom face) provided for the battery case; a positive current collector connector 2 (lead) as one of the lead, which connects the aluminum foil 1d to the side of battery case 8 parallel to pinching plate 4 (member) (inner bottom face) via the pinching plate 4 (member) (see figure 4); and a negative lead 1b as one of the lead, which connects the copper foil to the terminal 3, wherein the part is where the negative current collector connector 2 (lead) and the copper foil 1e are electrically connected to each other.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagino, as applied to claims 1, 3, 5-7, 10, and 11 above, in view of Iwaizono et al. (U.S. Pat. No. 6524739) ("Iwaizono").

Regarding claim 4, Hagino fails to teach the member has an insulating property.

However, Iwaizono teaches resin rivets 62 as fastening means for a secondary battery (see column 5, lines 66-67 and column 6, lines 1-4). Iwaizono teaches the use of insulating resin rivets enables both sides of the circuit board to be fastened to other components with reliable electrical insulation therebetween (see column 5, lines 66-67 and column 6, lines 1-4). Therefore, it would have been obvious to a person having ordinary skill in the art to substitute the rivet as described by Hagino for the insulating resin rivet because Iwaizono teaches the use of the insulating resin rivet improves efficiency by providing reliable electrical insulation (see column 5, lines 66-67 and column 6, lines 1-4).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Empress Etheridge whose telephone number is (571)270-7892. The examiner can normally be reached on Monday- Friday 8:30-5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571)272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. E./

Examiner, Art Unit 1795

/Dah-Wei D. Yuan/

Supervisory Patent Examiner, Art Unit 1795